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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/657,131	09/09/2003	Jun-Ling Fan	FANJ3004/EM	1901
23364	7590	11/04/2004	EXAMINER	
BACON & THOMAS, PLLC 625 SLATERS LANE FOURTH FLOOR ALEXANDRIA, VA 22314			RAJGURU. UMAKANT K	
			ART UNIT	PAPER NUMBER
			1711	

DATE MAILED: 11/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/657,131

Applicant(s)

FAN ET AL.

Examiner

Umakant K. Rajguru

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

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1. Claims 1-9 are presented for examination
2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1, 2, 5, 6, 7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Graham et al (US 5821284).

Graham discloses an insulation for rocket motors. This insulation comprises EPDM rubbers, aramid fibers, ammonium sulfate and antimony oxide (abstract, col. 1, lines 65 to col. 2, line 15). Silica is used as a filler (col. 8, line 5). A blend of EPDMs is also suggested in table I, col. 3, lines 21-22.

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Graham does not mention that particles of ammonium sulfate are coated by a rubbery material. It is the examiners position that when above ingredients are mixed, the EPDM liquid rubber is likely to coat the ammonium sulfate particles.

It would therefore be obvious to follow teachings of Graham & arrive at claimed invention.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 2, and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Graham et al (US 5821284).

Disclosure of Graham proves that above claims lack novelty.

6. Claim 3 rejected under 35 U.S.C. 103(a) as being unpatentable over Graham et al (US 5821284) as applied to claims 1 & 2 above, and further in view of Barton (US 4667447)

Graham does not mention polyterpene of instant claim 3 .

Barton describes coated abrasive sheet material. In col. 14, lines 64 – 68, patentee teaches a composition containing iron granules, ethylene vinyl acetate, polyterpene tackifier resin and antioxidant.

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It would have been obvious to include the said polyterpene in the insulation material of Graham for imparting enhanced adhesion of the material to the rocket motors.

7. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Graham et al (US 5821284) as applied to claim 1 above, and further in view of Hert et al (US 5312856).

Graham does not mention (claimed) vulcanization accelerator.

Hert disclose thermoplastic elastomers useful for manufacturing tubes, seals, articles etc (abstract). A blend of polynorbornene and polyvinyl chloride is used with 4, 4' – dithiodimorpholine as one of suitable accelerators (col. 2, lines 41-48; col. 3, line 47).

It would have been obvious to use 4, 4'- dithiodimorpholine as an accelerator in material of Graham to bring about rapid and complete curing of the material.

8. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Graham et al (US 584284) as applied to claim 1 above, and further in view of Kato (US 3475154).

Graham is silent about use of polyurethane as a material for coating ammonium sulfate.

Kato discloses plural coated pellet form product. In col. 11, lines 9-12 patentee describes a crystalline ammonium sulfate coated with a first layer of polyurethane oil, then a layer of cumorene resin followed by a layer of an alkyd resin containing wax.

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It would have been obvious to use polyurethane to coat the ammonium sulfate (used in the material of Graham) in order to minimize its solubility and to enhance antihygroscopic property.

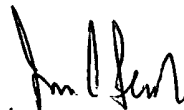
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to U. K. Rajguru whose telephone number is (571) 272-1077. The examiner can normally be reached on Monday-Friday from 9:30 am to 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James J Seidleck can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



U. K. Rajguru/af  
October 27, 2004



James J. Seidleck  
Supervisory Patent Examiner  
Technology Center 1700